1. **Implement a rule-based part-of-speech tagging system using regular expressions using python.**

**Aim:**

To implement a rule-based parts-of-speech tagging system using regular expressions using Python.

**Code:**

import nltk

from nltk.tokenize import word\_tokenize

from nltk.tag import RegexpTagger

patterns = [

(r'.\*ing$', 'VBG'),

(r'.\*ed$', 'VBD'),

(r'.\*es$', 'VBZ'),

(r'.\*s$', 'NNS'),

(r'^[A-Z].\*$', 'NNP'),

(r'.\*', 'NN')

]

regexp\_tagger = RegexpTagger(patterns)

text = input("Enter a sentence: ")

tokens = word\_tokenize(text)

tagged\_output = regexp\_tagger.tag(tokens)

print("POS Tagged Output:", tagged\_output)

**Input:**

Enter a sentence: Cats are jumping on the bed.

**Output:**

POS Tagged Output: [('Cats', 'NNS'), ('are', 'NN'), ('jumping', 'VBG'), ('on', 'NN'), ('the', 'NN'), ('bed', 'VBD'), ('.', 'NN')]

